Google Analytics: Cyclistic Project

Findings and Recommendations

Jacky Dwiyanto, PhD

230224

Background

- Fictional company Cyclistic is a bike-sharing platform operating across Chicago.
- They have two membership types:
  - Casual rider: day passes
  - Annual member: year-long subscription packages
- Business task: Company Director wanted the analytics team to provide strategies and recommendations to entice casual riders into annual members

Available data

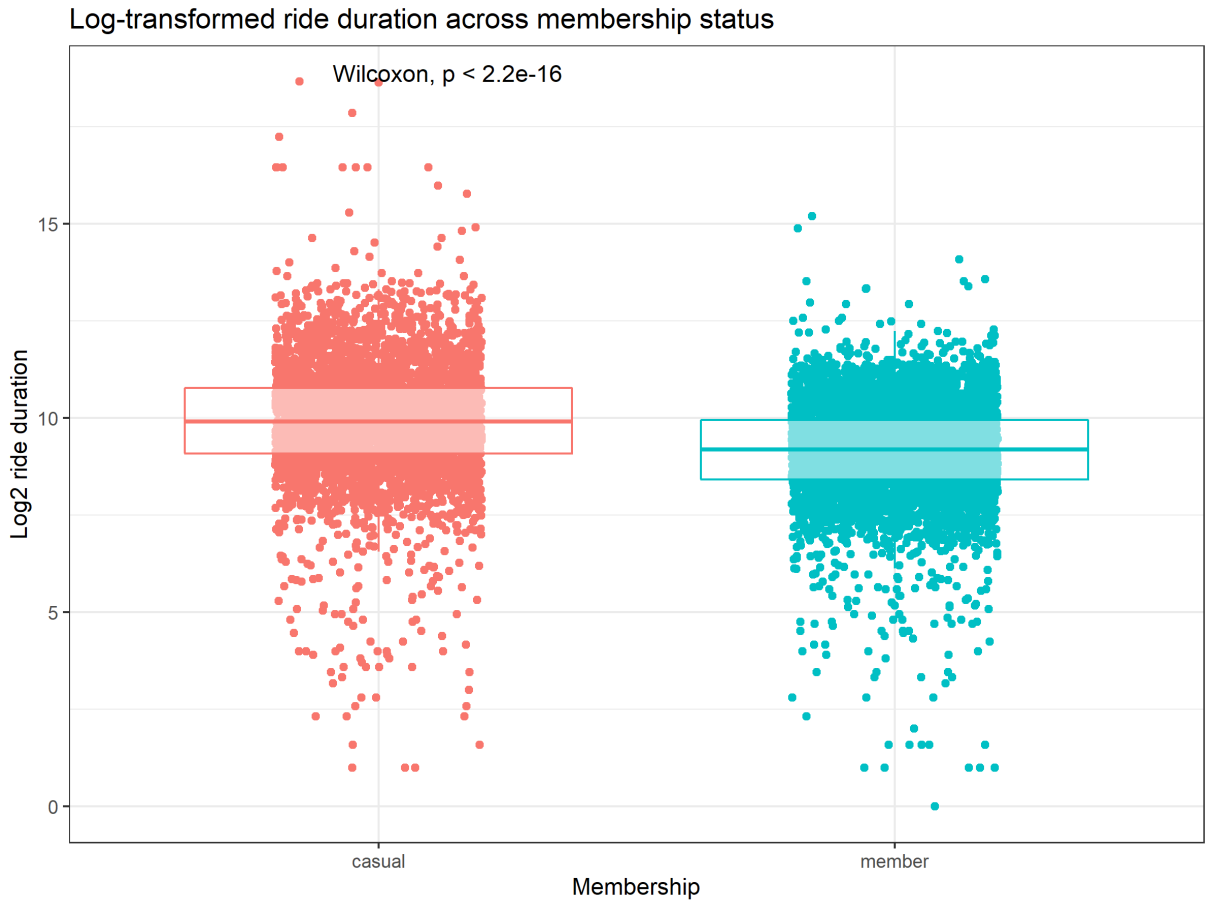
- 3 years bike-sharing dataset; containing:
  - Trip duration
  - Routes
  - Membership status
  - Bike type
- Objectives:
  1. Identify profile and preferences of annual vs casual riders
  2. Strategy recommendation based on (1)

Recommendations based on data insights

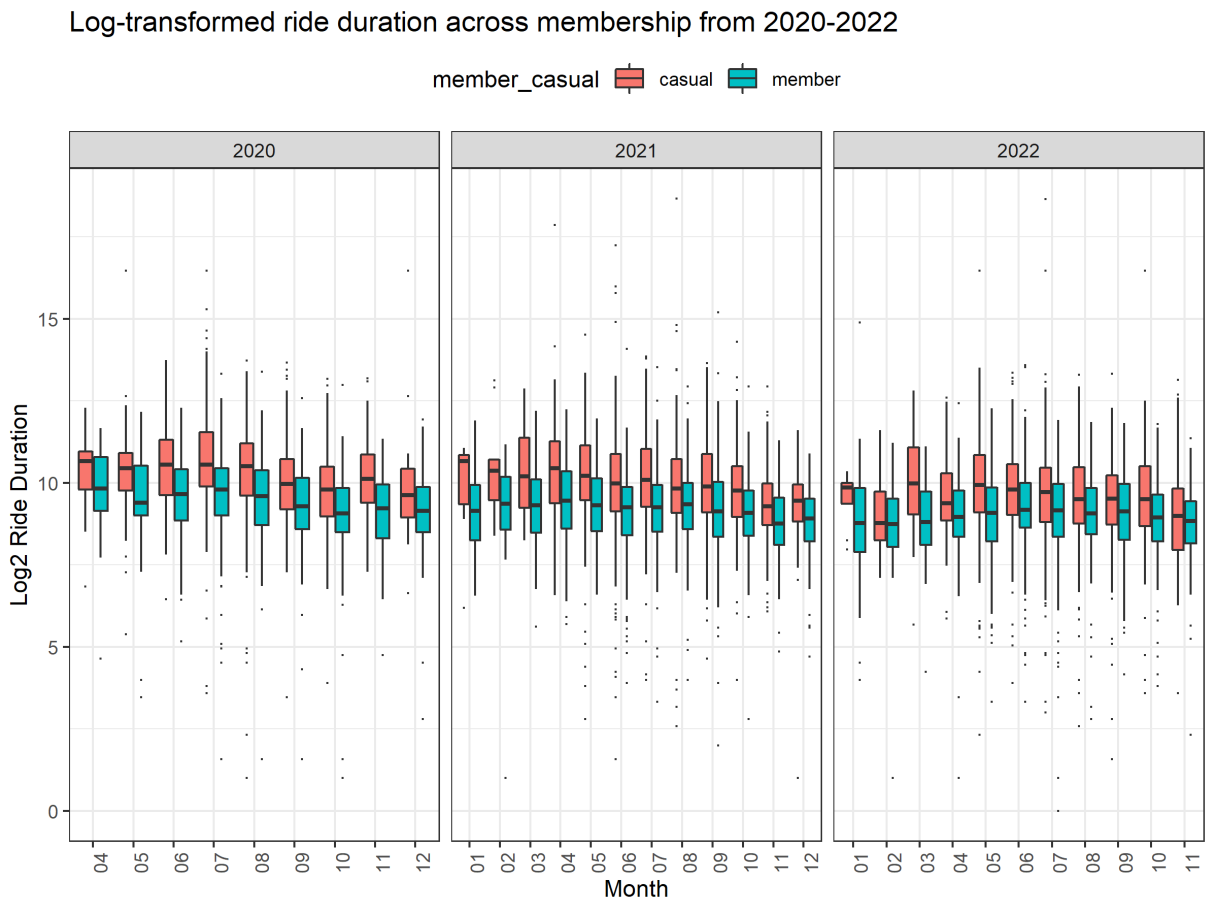
1. A subscription-based method which costs less than what the typical rider pays for multiple one-time passes may be persuasive enough to convert these regular casuals into members.
    - This approach is suitable if the company's goal is to capture more members and is willing to cut revenue in the short trm, since the director has identified members to be more profitable in the long run.
2. Casual->Member conversion strategy targeted to areas with high proportion of casual riders such as Streeter Drive and Lake Shore Drive.
3. Weekend-only membership plan for regular casual riders who frequently used the bike on the weekends, but are not members due to the lack of usage on weekdays, hence deterring a subscription plan
    - (which could be more expensive than purchasing day passes if only used on the weekends).
4. Limit the usage of non-classic bikes as a privilege to members only
    - Could entice casuals to convert their membership.
    - **Warning:** This option should be carefully evaluated with the market demands of Cyclistic bikes, as it could backfire and lead to reduced usage of bikes without any membership conversion.

The coming slides describe how I derived these recommendations …

Findings1: Members ride shorter trip than casual riders



Findings1: Members ride shorter trip than casual riders

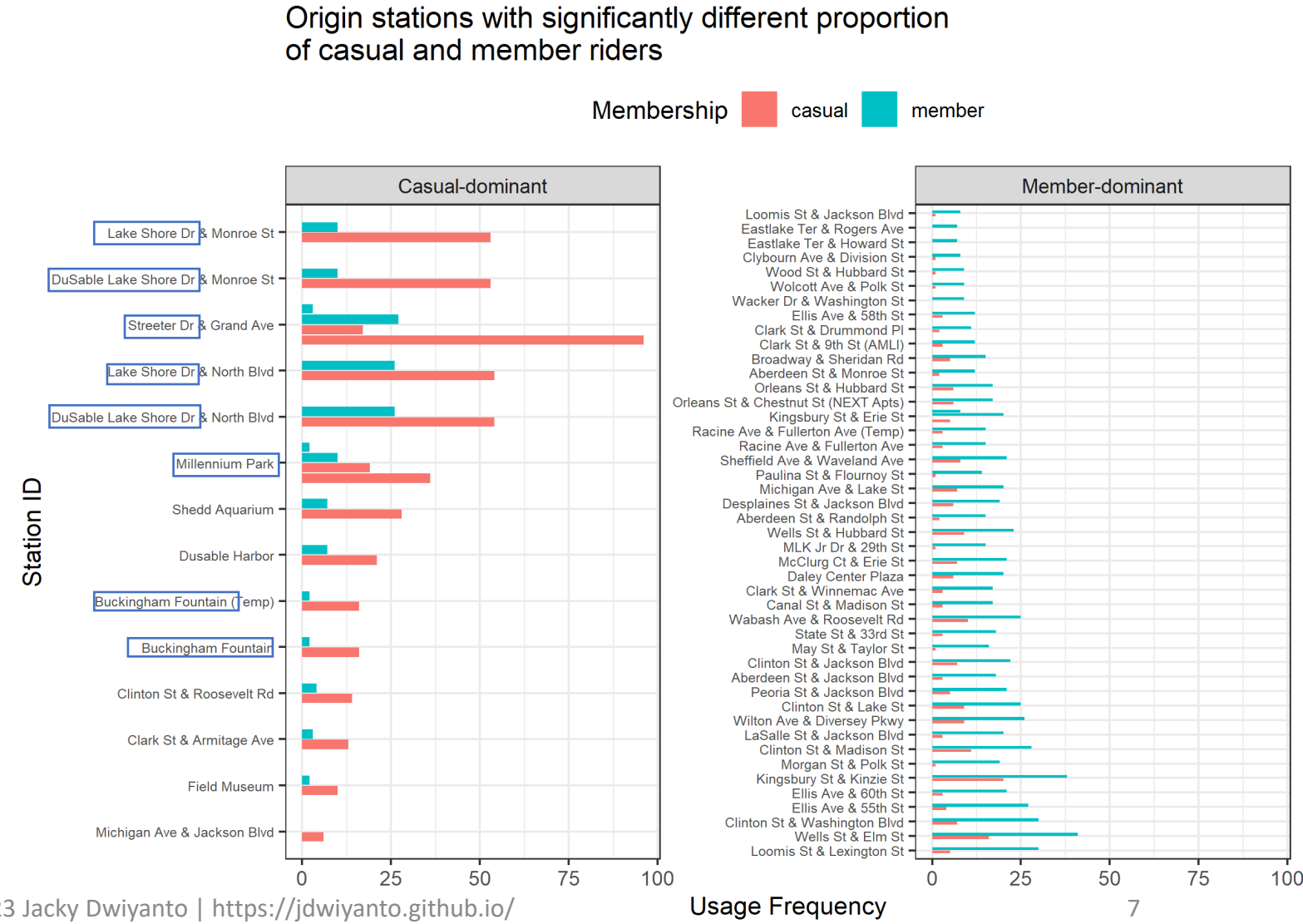


Findings are robust across time and year

Findings2: Members and casuals dominated different routes

Origin station

Highlighted casual-dominant stations:
- DuSable Lake Shore Dr
- Lake Shore Dr
- Streeter Dr

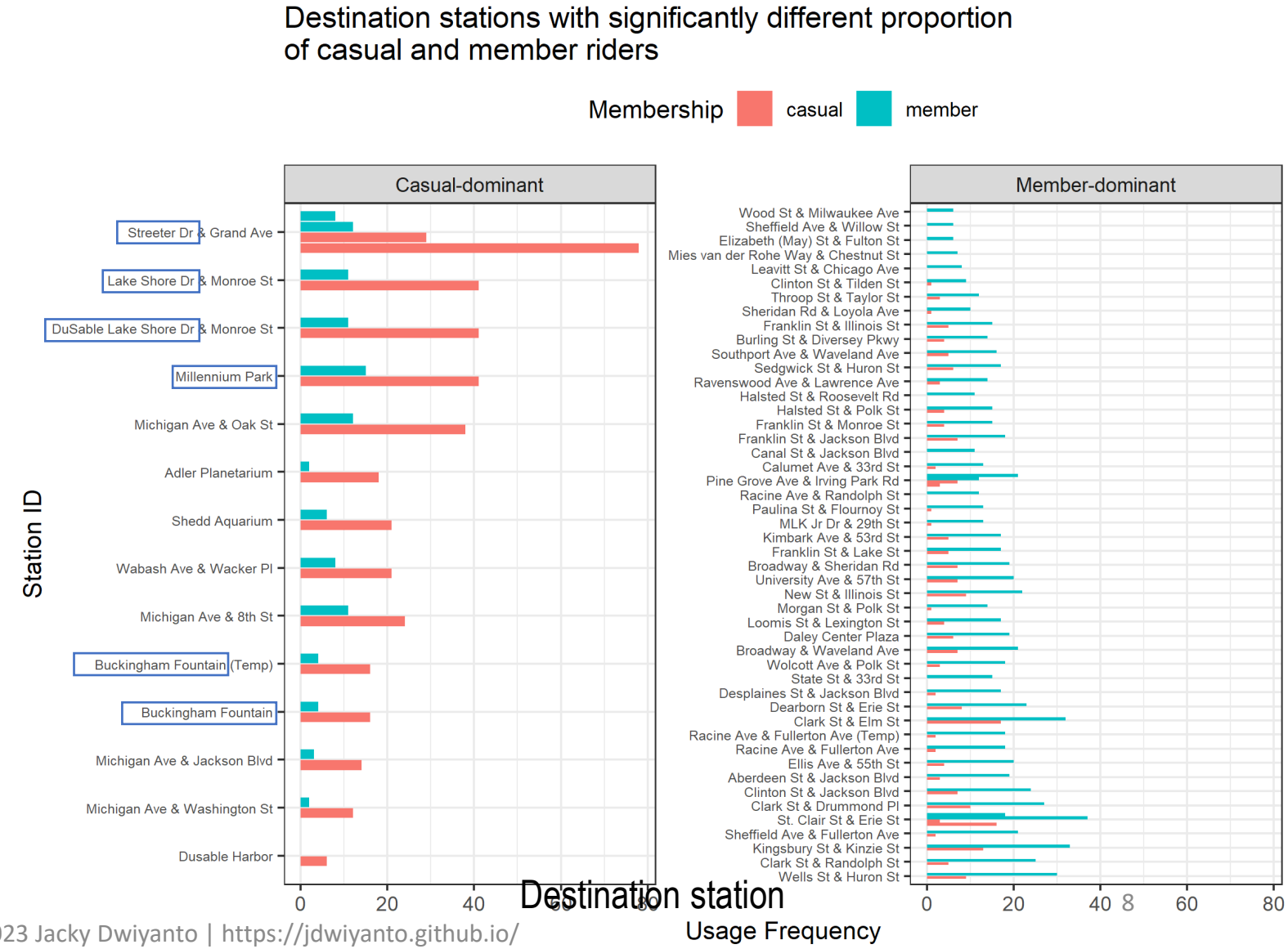


Visualised stations had significantly different rider proportion between member and non-members ($p<0.05$)

Findings2: Members and casuals dominated different routes

Destination station

Highlighted casual-dominant stations:
- DuSable Lake Shore Dr
- Lake Shore Dr
- Streeter Dr

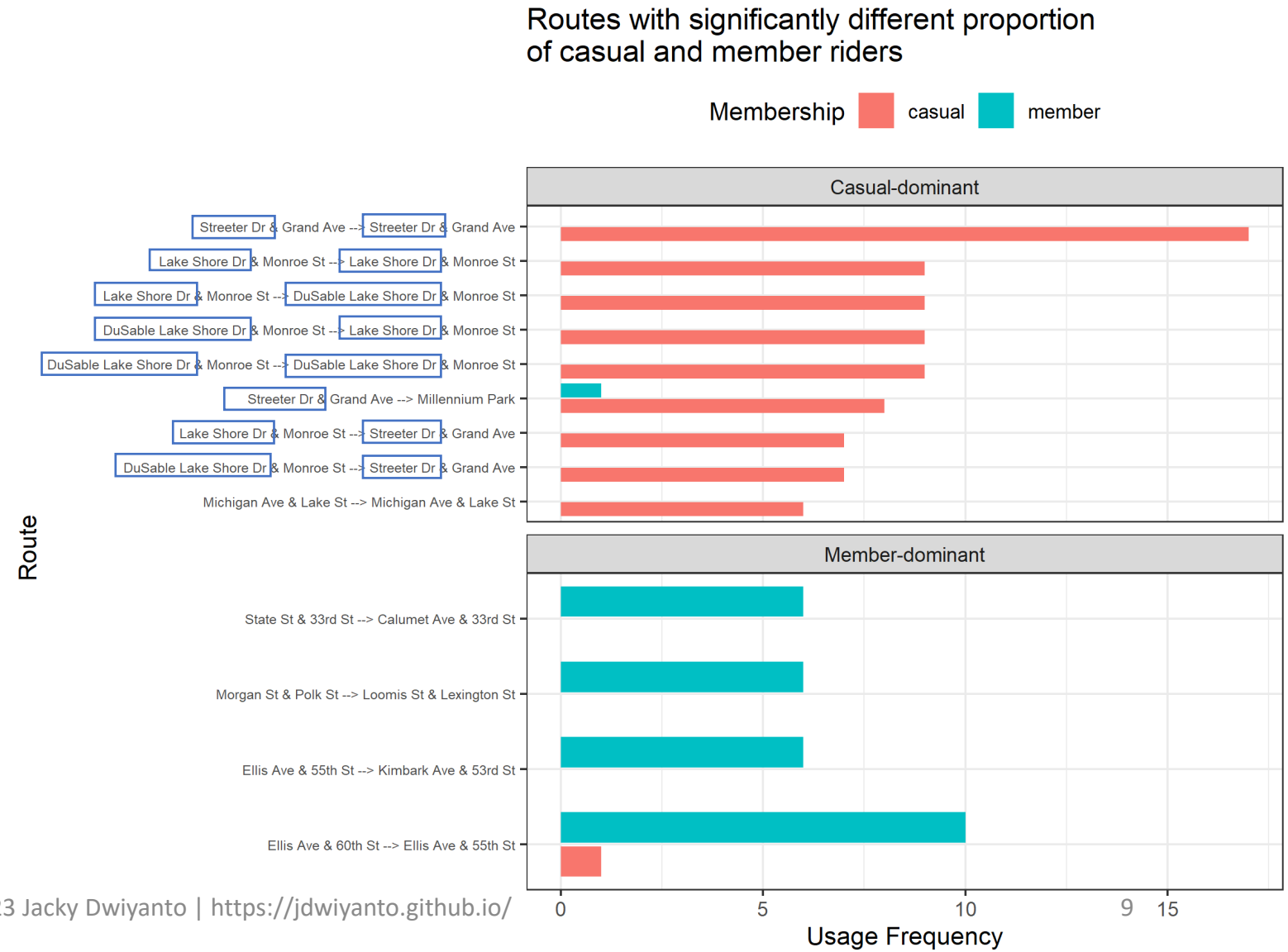


Findings2: Members and casuals dominated different routes

Routes

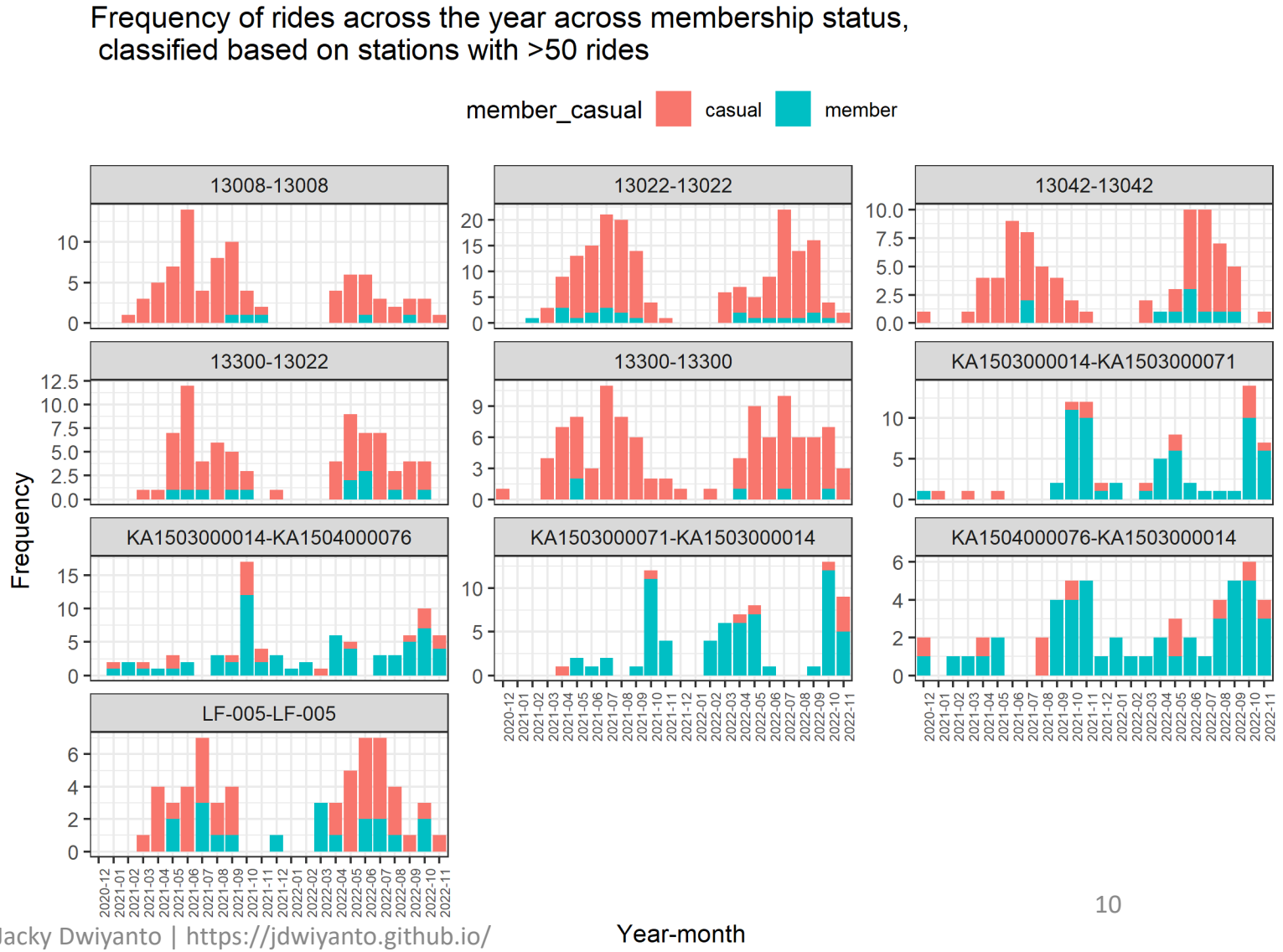
Highlighted casual-dominant stations:
- DuSable Lake Shore Dr
- Lake Shore Dr
- Streeter Dr

Casuals dominated routes starting and ending at the same station, and near recreational areas (e.g. lake shore drive, near beaches and coastline)

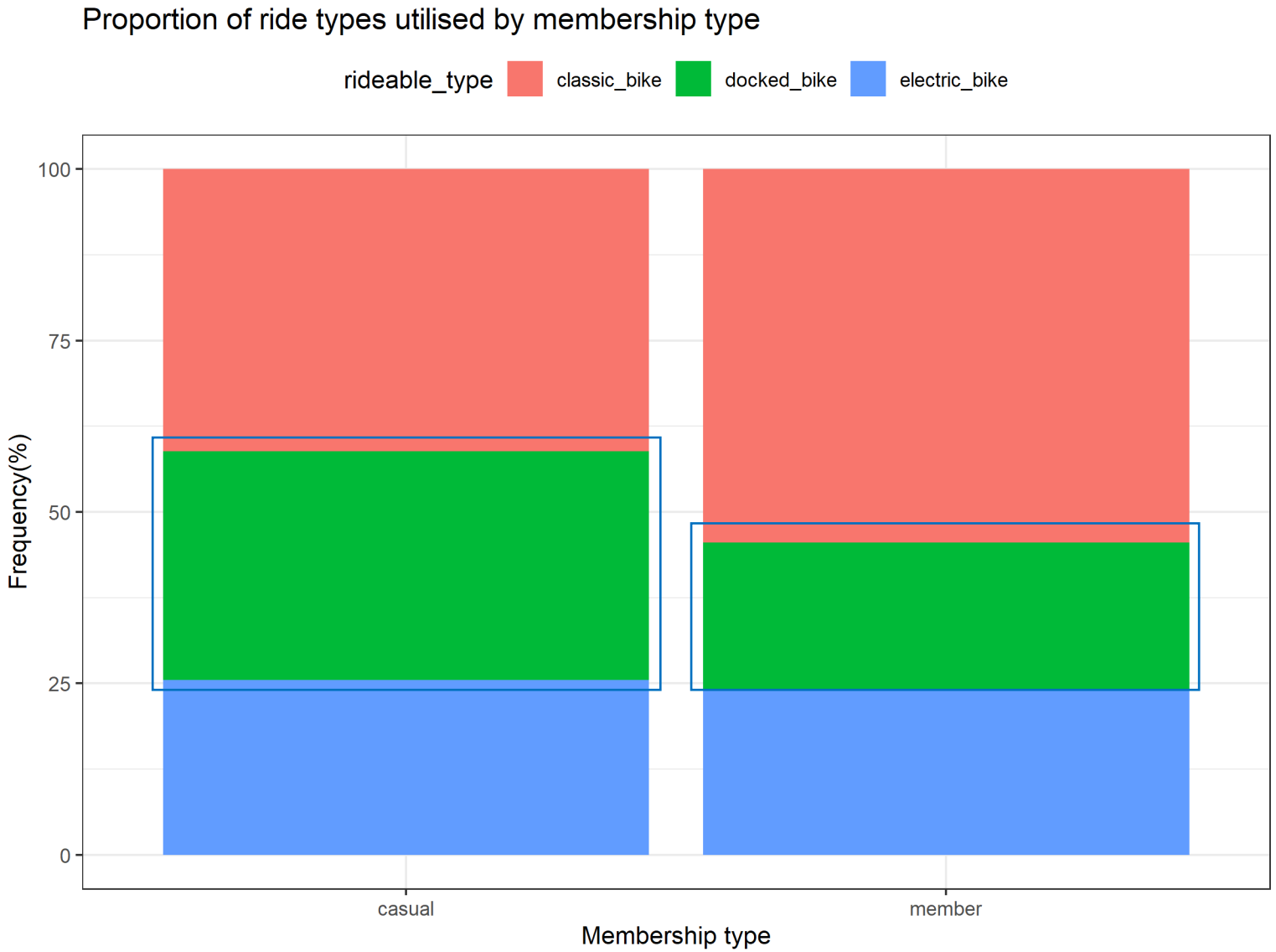


Findings2: Members and casuals dominated different routes

The dominance of casual/member riders consistent throughout the year and months



Findings3: Members preferred classic bikes whereas casuals preferred docked and electric bikes

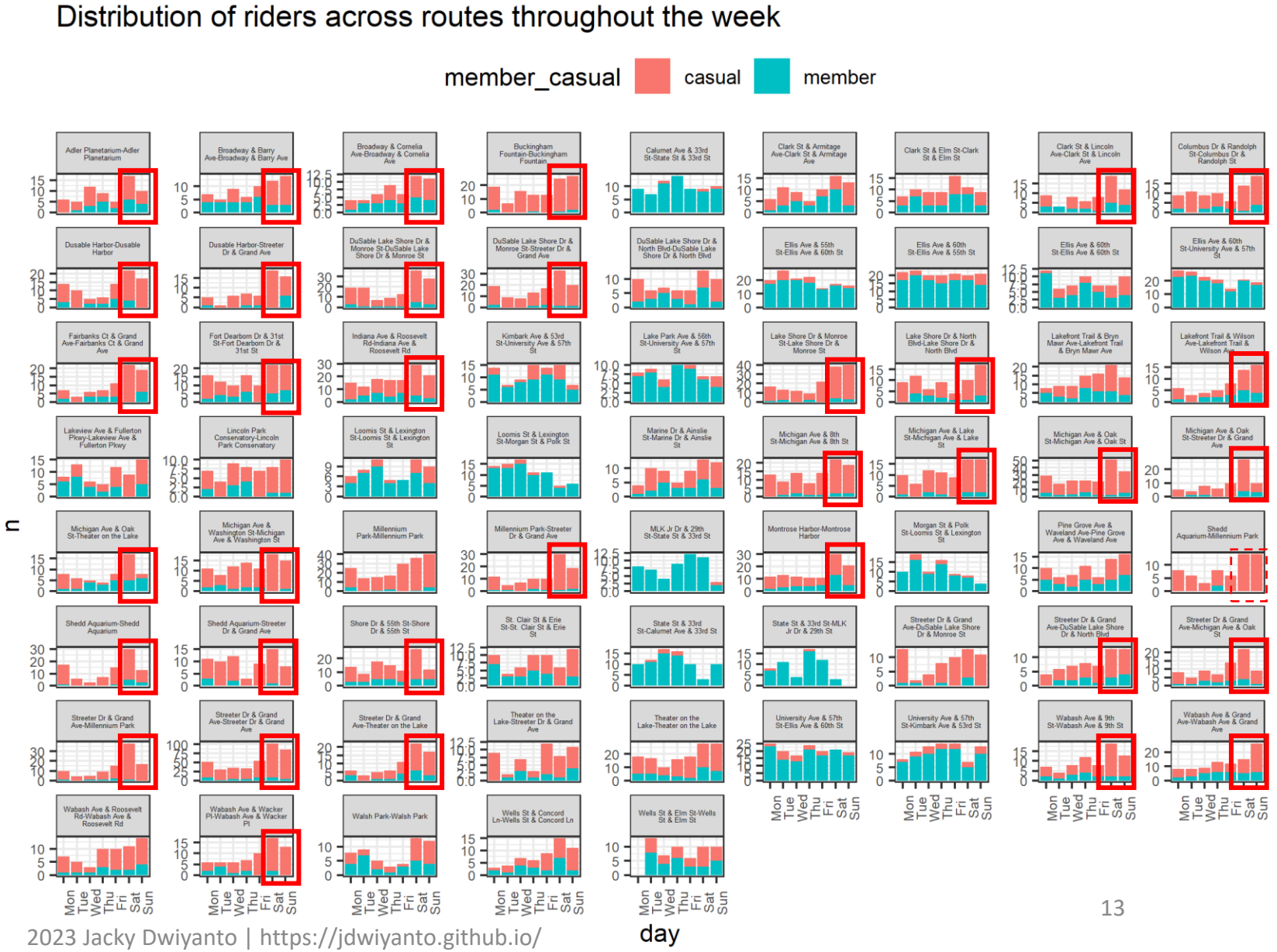


Findings3: Members preferred classic bikes whereas casuals preferred docked and electric bikes

Bike preference was station-dependent
Members still higher usage of classic bikes

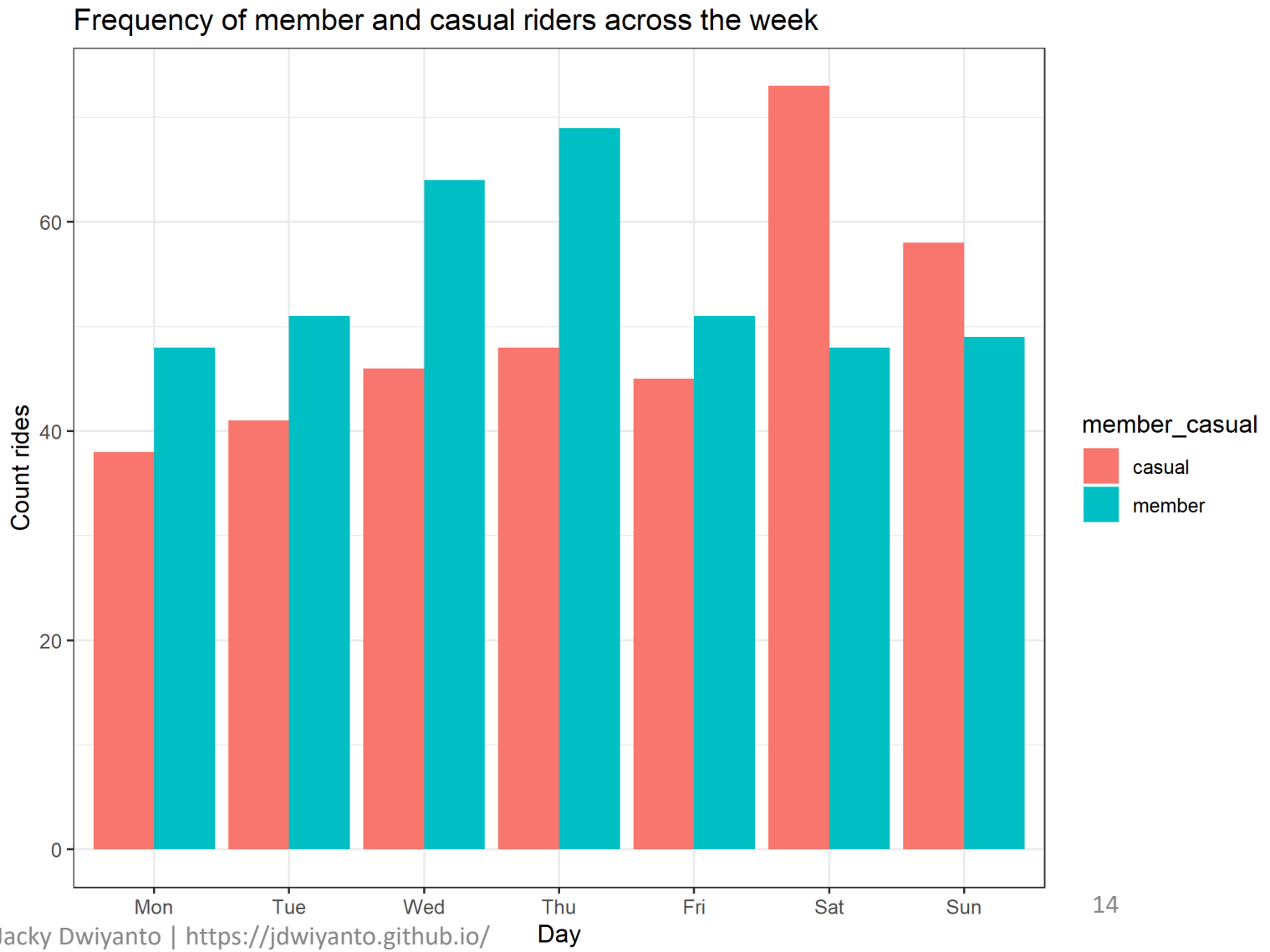
Findings4: Members dominated weekdays; casuals on weekends

Casual riders generally increased during the weekend, vs members who were generally stable across the week, although its station-dependent



Findings4: Members dominated weekdays; casuals on weekends

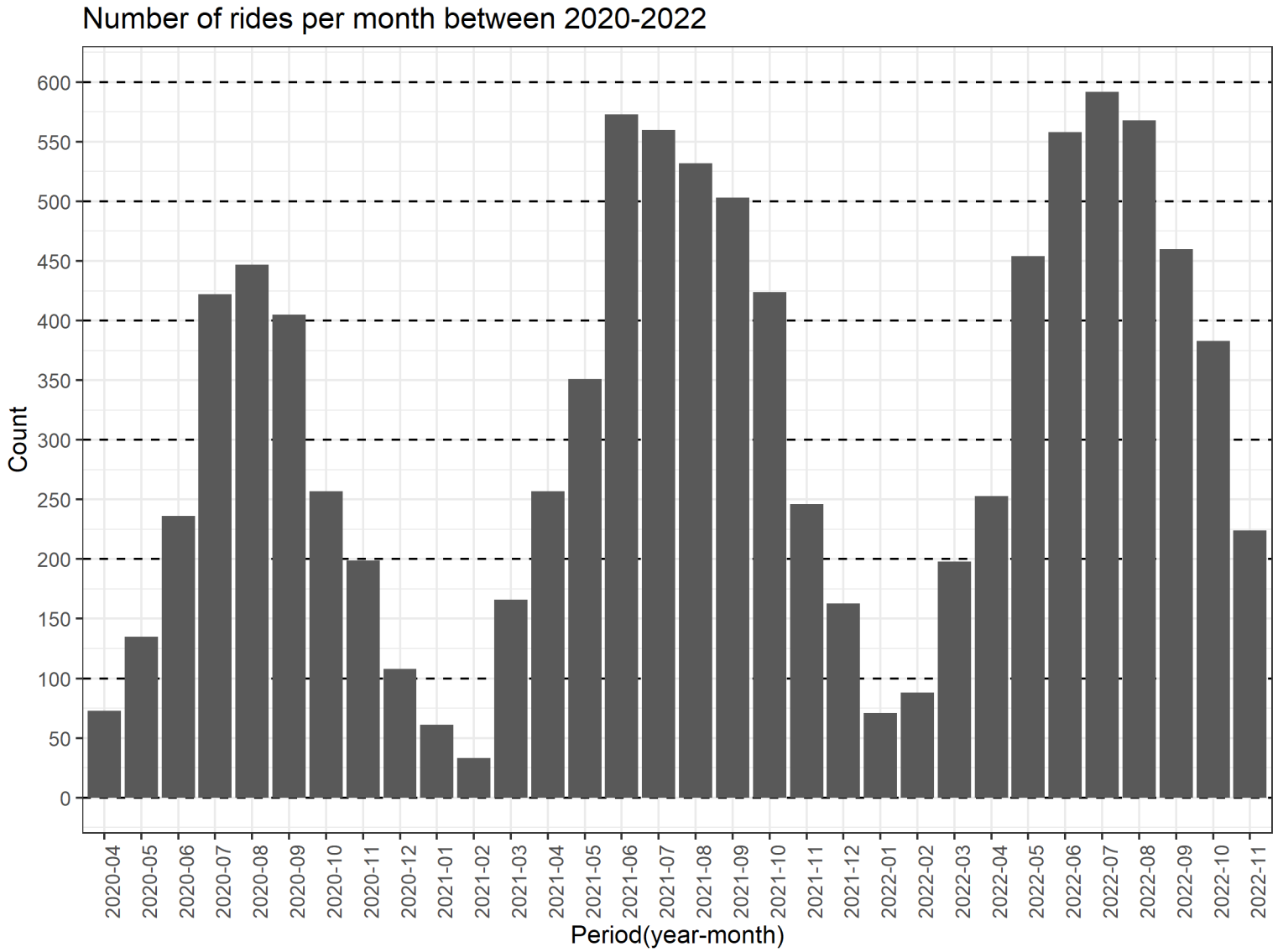
Members outnumbered casuals on weekdays
Vice versa for casuals on weekends



Findings4: Members dominated weekdays; casuals on weekends

Members outnumbered casuals in all bike types on weekdays
Vice versa for casuals on weekends

Findings5: Rides peaked during yearly Q2-Q3, with Q1&Q4 dominated by members



Findings5: Rides peaked during yearly Q2-Q3, with Q1&Q4 dominated by members

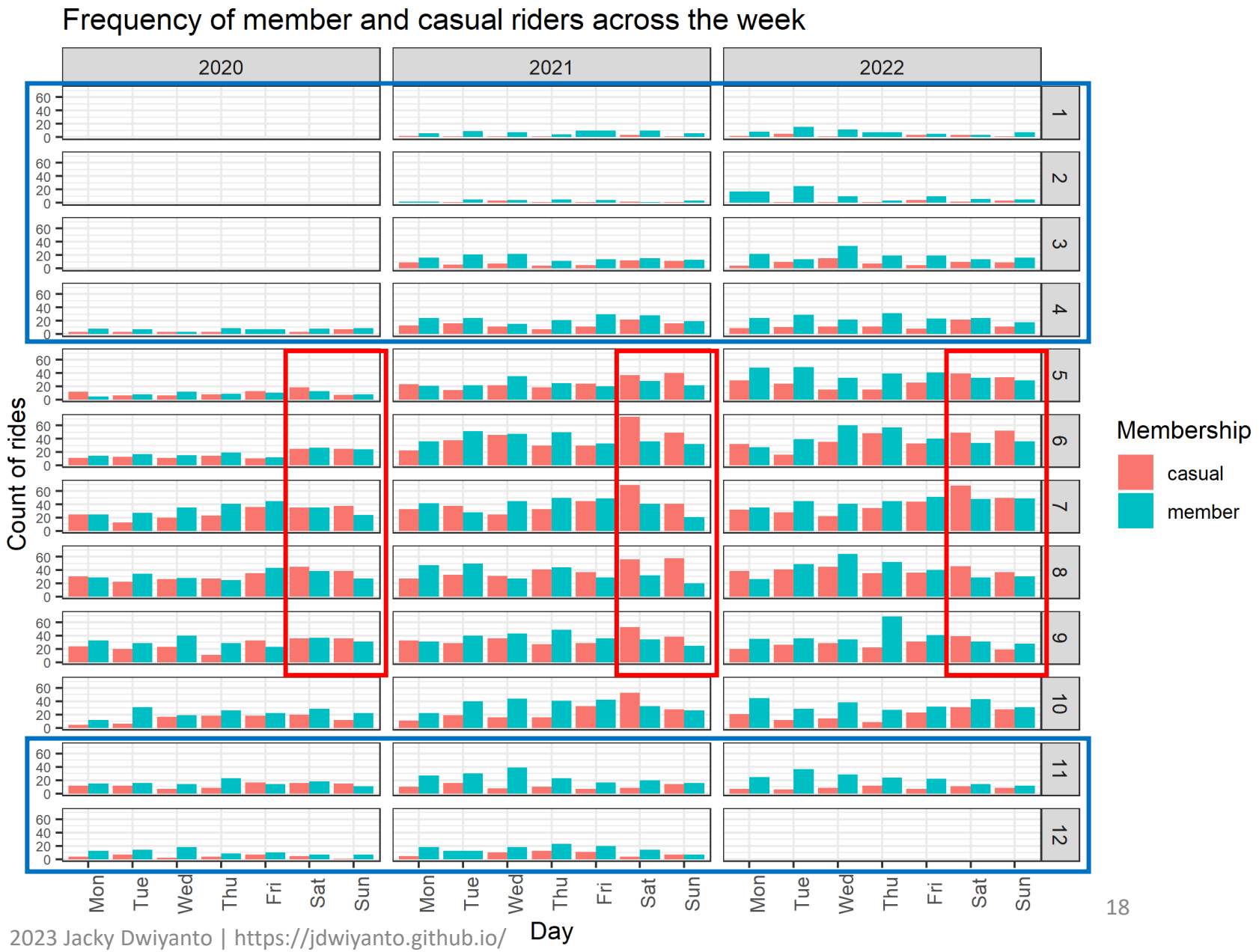
Early and end-of-year = member-dominant

Mid-year = comparable member/casual rides

Findings5: Rides peaked during yearly Q2-Q3, with Q1&Q4 dominated by members

The higher frequency of casual riders during the weekend was only true during peak months and were much higher in 2021 compared to 2022 and 2020.

There were much fewer casual riders compared to members during Jan-April and Nov-Dec throughout the 3 year period.



Findings summary

- Our findings:
    1. Members ride shorter trip than casual riders
    2. Members and casuals dominated different routes
    3. Members preferred classic bikes whereas casuals preferred docked and electric bikes
    4. Members dominated weekdays; casuals on weekends
    5. Rides peaked during yearly Q2-Q3, with Q1&Q4 dominated by members

- Our hypotheses based on findings:
    - Members likely utilized bike for regular commutes, while casuals for recreational and sightseeing
        - Supported by much higher number of casual riders on weekends
        - Also supported by casuals dominating route within recreational area (e.g., Lake Shore Drive in coastal region (beaches)
    - Members likely utilise classic bikes due to cost-effectiveness or availability

Recommendations

1. A subscription-based method which costs less than what the typical rider pays for multiple one-time passes may be persuasive enough to convert these regular casuals into members.
    - This approach is suitable if the company's goal is to capture more members and is willing to cut revenue in the short trm, since the director has identified members to be more profitable in the long run.
2. Casual->Member conversion strategy targeted to areas with high proportion of casual riders such as Streeter Drive and Lake Shore Drive.
3. Weekend-only membership plan for regular casual riders who frequently used the bike on the weekends, but are not members due to the lack of usage on weekdays, hence deterring a subscription plan
    - (which could be more expensive than purchasing day passes if only used on the weekends).
4. Limit the usage of non-classic bikes as a privilege to members only, which could entice casuals to convert their membership.
    - **Warning:** This option should be carefully evaluated with the market demands of Cyclistic bikes, as it could backfire and lead to reduced usage of bikes without any membership conversion.

Caveats

- Further data recommended to validate the given recommendations:

1. Unique rider ID
   - Informs how frequently/regularly members and casuals utilized the bike rides
2. Ride cost and availability for different bike types across different locations,
   - Informs motivation for bike type choice preference
3. Ride availability at different locations
   - Informs bike type choice preference
4. Expert input on which stations and routes constitute hot commute or vacation area.
   - Validates commuting/recreational hypothesis